CALIFORNIA. ~~STATE~~ BOARD OF HEALTH.

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HEALTH LEGISLATION.

The Legislature, which has just adjourned, enacted some health laws which will be of great benefit to the State if properly enforced. First among them is the one providing that "Every building, room, basement or cellar, occupied, or used as a bakery, confectionery, cannery, packinghouse, slaughterhouse, restaurant, hotel, grocery, meat market, or other place or apartment, used for the production, preparation for sale, manufacture, packing, storage, sale or distribution of any food, shall be properly lighted, drained, plumbed, and ventilated."

The floors, ceilings, furniture, receptacles, utensils, implements, and machinery must be kept clean and sanitary. Flies and dust must not be allowed to reach the food; employees must be clean and free from disease; toilet rooms must be maintained and kept clean; lavatories must have a supply of water, soap, and towels; cuspidors shall be supplied and kept disinfected, and no operator or employee shall be allowed to spit on the floor.

The enforcement of the law is upon the local and state boards of health, and the State Board is authorized to publish in its Bulletin the reports of its inspectors.

Another law of great economic value, as well as sanitary, is that requiring every person, firm or company having possession of any place, building or craft infested with rats, mice, gophers or ground squirrels to proceed in good faith to exterminate them.

The State and local boards of health can appoint inspectors to enforce the law, and the county supervisors and town or city governments can, when necessary to prevent great loss or an epidemic, appropriate money to buy traps, poison, etc. To make this possible an existing law was amended granting power to the boards of supervisors to levy a sanitary tax of one half mill on each dollar valuation.

The tremendous loss from the depredations of rats and squirrels, to say nothing of the danger from the spread of disease, makes this a most valuable law and one that should be energetically enforced.

The Pure Food Law was not changed to any great extent. One amendment requires that if there is no label on a product it must not be misrepresented in any way, and that cold storage or preserved eggs or poultry must be so designated. Vinegar is considered adulterated if it is artificially colored.

It was somewhat unfortunate that the laws relating to tuberculosis were all defeated excepting the one appropriating $2,000 for the State Board of Health to disseminate knowledge regarding that disease. This amounts to nearly one mill for every inhabitant of the State, or one half mill a year. We can not disseminate very big chunks of knowledge on that basis, but will do our best. We should not be discouraged by this want of success. To be sure, this disease is killing us off at the rate of five thousand a year; once every two hours the clods fall on the coffin of some one in this State who might have been saved from dying of tuberculosis, but we can't build armories to prepare us to kill and hospitals to save our lives at the same time. Sometime the State will awaken to the fact that our death rate from tuberculosis stands near the head of the list, and that it is far from the truth that this death rate is largely from newcomers. We will then have laws requiring a prompt reporting of all cases and that all apartments occupied by tubercular patients be disinfected. We will have hospitals where those afflicted can be treated and cared for as they can not be at home. We will give everybody at least a cent's worth of information each year how to avoid the disease, and instead of one in every six dying of it, as at present, the rate will be materially lowered.

It is certainly to be hoped that none of those responsible for the defeat of the bills will suffer from the disease.

PLAGUE.

Fortunately no case of human plague has been found in California since last summer, nor rodent plague since the late fall, but while congratulating ourselves on this condition, we must not for one minute suppose that the danger is all passed. We have had no cases because we kept down the rats. Let up on our work too much, and the pests will increase more rapidly than tramps and thugs if we discharge our police force. And with the return of rats we may expect more plague, for it would be a miracle if it is all stamped out of the State.

Every city and town should keep up a campaign against them. They are not only a constant menace to health, but they destroy thousands of dollars worth of produce and goods each year. Any city having had plague will be particularly culpable if they allow the old condition of affairs to return.

The sanitary campaign carried on last year did much for the public health besides stamping out plague, and the amount of work done can be measured almost exactly by the death and morbidity rates. It may not be necessary to do the amount of work that was done last year, but every one knows how quickly a house or city gets dirty unless there is a constant watch. We think nothing of supporting a trained police force to watch for those who would steal our wealth or injure our person; then why should we be more niggardly in maintaining a force to guard us from disease which would take our health and life?

As a financial investment, no city can afford to take chances with plague. It will never be as widespread here as in India, not because it is a different form, or that we are immune; but because we know its nature and natural history, and can get rid of it. A single case, however, will hurt a city that is not properly safeguarding its people. It is a matter of country-wide importance, and while sanitarians and others do not mind the disease if the local authorities where it exists are awake and active, they will not tolerate inactivity, or a stupid effort to suppress the knowledge of its existence. Every community should be wide-awake to the possibilities of the disease coming, and enforce the State law recently passed requiring everybody owning or in charge of property that is infested with rats, mice, gophers, or ground squirrels to proceed in good faith to exterminate them.

RAISIN DAY.

April 30th has been set as Raisin Day for the purpose of calling attention of the people generally to this excellent food product. Of all dried fruits there are none better or more healthful than the raisin. It is simply the rich raisin grape dried in the sun. There are none of the grape's virtues taken away and nothing added, as they are not dipped, dyed, or bleached, but simply the ripe fruit dried and carefully cleaned and packed. The foolish, but, unfortunately, too prevalent idea that the seeds of raisins cause appendicitis has no foundation in fact. Probably there was never a case caused by them, but those who fear or dislike the seeds need not do without this excellent food, for they can be had seeded.

Attention is called to an article on the "Nutritive Value of Raisins," by Prof. M. E. Jaffa, in another part of this Bulletin.

THE CALIFORNIA SANITATION EXHIBIT.

By W. F. SNOW, M.D., of Leland Stanford Junior University.

History of the Exhibit.—During the past five years the State Board of Health has tried a good many experiments in awakening the public to a realization of the extent and cost of preventable diseases in California. These experiments have been limited to lectures, to public health conventions, and to personal efforts of the secretary and other members of the Board. In November, 1908, the Board decided to try the exhibit method which has met with such signal success in combatting tuberculosis in many of the Atlantic States. This decision followed a series of informal conferences of public health workers throughout the State, the final conference being held between Secretary N. K. Foster and Dr. W. F. Snow of Stanford University on their return from the International Tuberculosis Congress in Washington. It was agreed that Professor Snow should contribute the time necessary to plan the charts and models for the exhibit, provided the State Board of Health could pay for the construction materials, and arrange the details of transportation and demonstration.

The serious problem of transportation was eventually solved through the efforts of Dr. Colby Rucker of the United States Public Health Service and Dr. F. K. Ainsworth of the State Board of Health. Largely through the influence of the latter the Southern Pacific Company agreed to contribute the expense of transportation over its lines and to remodel one of its best passenger coaches for housing the exhibit. The Santa Fe Company also agreed to furnish transportation over its lines within the State.

The actual construction of the exhibit was begun in December, 1908. Its completion the following March was due in a very large measure to Mr. William Snow, Sr., who volunteered his entire time for this period of four months, supervising the details of construction. Mr. R. R. Long and Mr. R. W. Doane of Stanford University also were instrumental in completing many details of the exhibit.

The car was informally opened to the public by Dr. W. F. Snow Sunday afternoon, March 28, 1909, this opening being announced from the pulpits by the ministers of Palo Alto. Dr. Snow then took the car on a trial trip down the San Joaquin Valley as far south as Fresno, returning to San Francisco Saturday, April 3d. A second trial trip was made through the cities of the Monterey Bay region. Fourteen cities with populations of from 3,000 to 30,000 inhabitants were visited, and the exhibit was demonstrated to 3,500 people. The distance covered was approximately 1,000 miles.

The purpose of these trial trips was to determine the best methods of making the public health campaign for which the car has been planned. Everywhere the exhibit met with instant and hearty indorsement. It was explained at each stop that the purpose of these preliminary trips was to elicit the suggestions and criticism of the public health workers and the professional and business men of the community. Many valuable suggestions were made, and will be used as the basis for a final decision relative to the plan of campaign which will be formally announced in San Jose at the annual meeting of the California Public Health Association April 19, 1909.

Plan of Exhibit.—The vital statistics of California have been made the basis for seventy-five wall charts, illustrating the cost in human lives of three preventable diseases—tuberculosis, typhoid fever, and diarrhœa. The statistics show these diseases alone to cause the deaths of 6,000 people in California annually.

The contributing factors in these diseases are primarily (1) in tuberculosis, bad housing conditions; (2) in typhoid fever, bad water supplies; (3) in diarrhœa, bad milk supplies.

Each series of statistical charts has grouped about it from two to twelve models, showing in great accuracy of detail the typical ways in which each disease effects its transfer from those who have the disease to those who are susceptible to it. Supplementary groups of charts and models have been added to each series to illustrate the best methods of prevention.

Tuberculosis, typhoid fever and diarrhœa were selected because they are typical of all the distinctive communicable diseases in California. A minor amount of space has been given to malaria, smallpox, and other diseases presenting special methods of control.

Details of Special Interest.—The farmhouse has proved of special interest to visitors. The model shows the conditions of overcrowding, lack of ventilation, and methods of living which favor the spread of tuberculosis in a prosperous country home. A tuberculous relative visiting the family completes the essentials for demonstrating the progress of the disease from member to member of the family. The outbuildings and well of this farmhouse show the methods by which typhoid fever is conveyed from one individual to another.

A model showing tenement-house conditions and the wrong methods of taking the "fresh air cure" has proved an important feature of the exhibit. The arrangement of the apparatus has been so planned that the demonstrator may emphasize any phase of the subject which he finds his audience specially interested in. The models illustrating housing conditions lead to those dealing with "fresh air" tents and sleeping porches, sputum cups and similar devices, and to a working model of a tuberculosis sanatorium.

The tuberculosis sanatorium demonstrates the value of the state hospital as a means of preventing the spread of the disease, not as a home for hopeless cases after it is too late for recovery. The model is constructed in three sections, (1) a city; (2) a tuberculosis tent colony in the mountains, showing convalescent patients serving as state fire rangers during the summer months; and (3) a farm colony, showing the recovered patients located in country outdoor occupations. "The hospital training school for consumptives" is the title of this model. It is easy for the demonstrator to show that each man thus trained becomes a valuable fighting unit against this disease, which causes the death of one out of each seven of California's residents.

Several hundred photographs, showing occupation conditions favoring tuberculosis, have attracted much attention. One collection shows things not ordinarily thought of in connection with the subject. This list includes a harmonica, a tin whistle, a pipe, a telephone, tin dipper, lead pencils, a "family" handkerchief.

An excellent series of cultures, vaccines, and serums has been contributed by the Cutter Laboratories of Berkeley, and supplemented by general culture specimens from the State Hygienic Laboratory. A model is grouped with these exhibits, showing the technique of testing a cow for tuberculosis, and the resulting reaction temperature curve. Among the illustrations of combatting tuberculosis is a model showing the use of a farm kitchen as an operating room for the early removal of tuberculous glands.

Each year approximately 400 California babies, under one year of age, die from diarrhœa and enteritis. It is estimated that less than ten per cent of these are breast-fed babies. The models accompanying the charts showing these facts represent the bad features of an average California dairy and the improvements which should be made to render it a safe dairy. Bad milk unquestionably plays a large part in the death of these babies. This part of the exhibit is equipped with culture plates showing the growth of bacterial colonies in milk, and various devices for proper collection and transportation of milk from the cow to the consumer. The exhibit shows also the methods adopted by milk commissioners for the control of "certified-milk."

A large group of relief models showing the pollution of streams, ground water wells, and springs has been of great interest in certain localities. This group shows the various ways in which the 6,000 preventable cases of typhoid fever originate each year. Along with this part of the exhibit are shown models of septic tanks, a sand filter, dry-earth toilets, garbage incinerators, and similar devices.

Mounted specimens of disease-carrying flies and mosquitoes, and diagrammatic charts showing their anatomy were contributed by the Entomology Department of Stanford University.

A series of charts and statistics showing the value of vaccination against smallpox has been of particular interest.

The United States records approximately 175,000 deaths annually from tuberculosis. A bell timed to ring 175,000 times in a year is included in the exhibit. This bell rings once every three minutes, and has caused very general comment.

Probable Usefulness of the Exhibit.—If the exhibit proves to be as influential on the Pacific coast as the tuberculosis exhibits have been on the Atlantic coast its purpose will have been fulfilled. Several special lines of usefulness have been suggested in the trial trips.

The citizens of three towns, with populations of 1,500 to 2,500, have requested the demonstration of the exhibit as an educational factor before bond elections relating to city sewerage or water supplies.

Two city school principals have decided, after studying the effects of the exhibit on school children, to have their manual training classes construct similar models for school exhibition purposes.

Two strong Woman's Civic Clubs of the State are considering the advisability of having similar exhibits constructed, to be turned over to the public schools for traveling museum purposes, sections of the exhibit to be moved from school to school at bi-weekly intervals.

Several of the larger cities have definitely planned to organize a public health week during the stay of the car. The exhibit to be supplemented by a series of illustrated evening lectures.

The trial trips have made it evident that the citizens of California are ready for the movement, and that they want to make it count toward specific results in each community. Manifestly the director of the campaign must be provided with a sufficient number of demonstrators, and a field survey party in order that he may be able to intelligently discuss the specific problems which will come to him in each community; and to provide the Secretary of the State Board with the details which will enable him to carry on this helpful influence after the car has passed on to other communities.

The recent report of the Country Life Commission, transmitted to the United States Senate February 9, 1909, includes this statement: "We find urgent need for better supervision of public health in rural communities on the part of states and localities. The control is now likely to be exercised only when some alarming condition prevails." "There is a great need for the teaching of the simplest and commonest laws of hygiene and sanitation in all the schools. The people need knowledge, and no traditions should prevent them from having it." "There are many questions of nation-wide importance, such as soil, milk, and water pollution * * *." "In general, the rural population is less safeguarded by boards of health than is the urban population. The physicians are farther apart and are called in later in case of sickness, and in some districts medical attendance is relatively more expensive. The necessity for disease prevention is therefore self-evident, and it becomes even more emphatic when we recall that infection may be spread from farms to cities in the streams and also in the milk, meat, and other farm products. Quite aside from the humanitarian point of view, the aggregate annual loss of the nation from insanitary conditions on the farm must, when expressed in money values, reach an enormous sum, and a betterment of these conditions is a nation-wide obligation."

The State Board of Health has hoped that this sanitation exhibit may in some measure serve to stimulate new workers in this "nation-wide" movement, and to bring together into closer coöperation the active special organizations already making their influence felt in California.

The board has a secretary who has now a large personal experience with the varied public health problems of the State. He has a hygienic laboratory and a pure food laboratory under his direction, and has at his command a number of volunteer consulting experts in various special fields, both in California and elsewhere in the United States. The ultimate success of the work must depend on the extent to which the citizens of the State avail themselves of these facilities.

DEPARTMENT OF VITAL STATISTICS.

GEORGE D. LESLIE, STATISTICIAN.

VITAL STATISTICS FOR MARCH.

Marriages.—The marriages reported for March number 1,483, and, for an estimated State population of 2,037,929, represent an annual rate of 8.6, against 10.2 for February.

The March totals were highest for the following counties: Los Angeles, 350; San Francisco, 269; Alameda, 125; Marin, 74; Orange, 66; Sacramento, 61; and Santa Clara, 53.

The aggregate for San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo) was 496.

Births.—For March there were reported 2,463 living births, representing an annual birth-rate of 14.2, as compared with 14.8 for the preceding month.

The totals were highest for the following counties: San Francisco, 577; Los Angeles, 553; Alameda, 234; Santa Clara, 107; Fresno, 97; Sacramento, 78; San Joaquin, 57; and San Diego, 55.

Altogether 1,524 births were registered in the twenty-four freeholders' charter cities, the leading cities being as follows: San Francisco, 577; Los Angeles, 382; Oakland, 115; San Jose, 48; Fresno and San Diego, each 43; Berkeley and Sacramento, each 41; Alameda, 38; and Pasadena, 35.

The aggregate for San Francisco and the transbay cities (Alameda, Berkeley, and Oakland) was 771, and for San Francisco and the other bay counties was 882. Similarly, the total for Los Angeles and neighboring chartered cities (Long Beach, Pasadena, and Santa Monica) was 440, and for the entire county was 553.

Deaths.—Altogether 2,797 deaths, exclusive of stillbirths, were reported for March, the annual death-rate being 16.2, against 15.9 for the month before.

The death totals were highest for the following counties: San Francisco, 579; Los Angeles, 570; Alameda, 284; Santa Clara, 134; San Joaquin, 85; San Bernardino, 76; San Diego, 72; Sacramento, 70; Fresno, 62; and Sonoma, 53.

There were altogether 1,606 deaths in the twenty-four freeholders' charter cities, the highest totals being as follows: San Francisco, 579; Los Angeles, 359; Oakland, 160; San Diego, 62; Sacramento, 60; Stockton, 53; Berkeley, 45; San Jose, 42; Alameda, 31; San Bernardino, 27; and Pasadena, 25.

The aggregate for the urban district (San Francisco and the transbay cities) was 815, and for the entire metropolitan area (San Francisco and the other bay counties) was 955. Similarly, the total for Los Angeles and neighboring chartered cities was 416, and for the whole county was 570.

Causes of Death.—In March there were altogether 475 deaths, or 17.0 per cent of all, from various forms of tuberculosis, and 470, or 16.9 per cent, from diseases of the circulatory system (heart disease, etc.). Tuberculosis thus leads heart disease slightly, though in the last few months heart disease has led tuberculosis somewhat.

Other notable causes of death in March were diseases of the respiratory system, 353; diseases of the nervous system, 268; violence, 238; diseases of the digestive system, 183; cancer, 162; Bright's disease and nephritis, 155; and epidemic diseases, 126.

Typhoid fever, as usual, was the leading epidemic disease in the month, causing 30 deaths, as compared with 26 from measles, 23 from diphtheria and croup, 18 from whooping-cough, and 29 from all other epidemic diseases.

Further particulars appear in the following table, which gives the number of deaths from certain principal causes reported for March, as well as the proportions from each cause per 1,000 total deaths for both March and February:

Cause of Death.	Deaths: March.	Proportion per 1,000. March.	Proportion per 1,000. February.
All Causes	2,797	1,000.0	1,000.0
Typhoid fever	30	10.7	11.3
Malarial fever	1	0.4	0.8
Smallpox	1	0.4	0.4
Measles	26	9.3	4.8
Scarlet fever	6	2.1	0.8
Whooping-cough	18	6.4	2.4
Diphtheria and croup	23	8.2	9.3
Influenza	14	5.0	1.2
Other epidemic diseases	7	2.5	4.0
Tuberculosis of lungs	405	144.8	144.0
Tuberculosis of other organs	70	25.0	18.5
Cancer	162	57.9	66.8
Other general diseases	109	39.0	27.8
Meningitis	41	14.7	14.9
Other diseases of nervous system	227	81.2	94.5
Diseases of circulatory system	472	168.7	186.2
Pneumonia and broncho-pneumonia	264	94.4	68.4
Other diseases of respiratory system	89	31.8	30.6
Diarrhea and enteritis, under 2 years	28	10.0	12.5
Diarrhea and enteritis, 2 years and over	15	5.4	6.4
Other diseases of digestive system	140	50.1	43.0
Bright's disease and nephritis	155	55 4	61.9
Childbirth	22	7.9	8.5
Diseases of early infancy	86	30.7	32.2
Suicide	64	22.9	20.1
Other violence	174	62.2	70.8
All other causes	148	52.9	57.9

Geographic Divisions.—The table below shows the number of deaths from main classes of diseases reported for March for the several geographic divisions of the State, including the metropolitan area, or

"Greater San Francisco," in contrast with the rural counties north of Tehachapi.

Geographic Division.	Deaths: March.									
	All Causes	Epidemic Diseases	Tuberculosis (All Forms)	Cancer	Diseases of Nervous System	Diseases of Circulatory System	Diseases of Respiratory System	Diseases of Digestive System	Violence	All Other Causes
The State	2,797	126	475	162	268	472	353	183	238	520
Northern California	355	21	59	15	36	54	57	18	35	60
Coast counties	166	10	28	7	27	24	20	10	14	26
Interior counties	189	11	31	8	9	30	37	8	21	34
Central California	1,606	79	253	108	135	283	208	109	137	294
San Francisco	579	33	99	39	34	105	78	45	50	96
Other bay counties	376	17	59	34	30	69	48	27	25	67
Coast counties	212	6	25	14	29	52	18	12	19	37
Interior counties	439	23	70	21	42	57	64	25	43	94
Southern California	836	26	163	39	97	135	88	56	66	166
Los Angeles	570	14	118	27	65	98	58	37	42	111
Other counties	266	12	45	12	32	37	30	19	24	55
Northern and Central California	1,961	100	312	123	171	337	265	127	172	354
Metropolitan area	955	50	158	73	64	174	126	72	75	163
Rural counties	1,006	50	154	50	107	163	139	55	97	191

DEPARTMENT OF BACTERIOLOGY.

DR. A. R. WARD, DIRECTOR.

CERTIFIED MILK IN CALIFORNIA.

By N. D. BAKER.

By "certified milk" we mean milk that is produced and distributed under the supervision of a medical milk commission composed of physicians who are appointed by a county medical society. The term was first used in 1893 by Dr. Henry L. Coit in Newark, New Jersey. The commission at that place entered into a written legal contract with a dairyman who agreed to conform to their requirements in regard to milk production. This means was resorted to after others had failed in order to have available a supply of milk to which the attention of the local medical profession could be directed as being a product that was a clinically correct one for the feeding of infants and other persons whose resistance to disease had been for any reason temporarily reduced. For such persons milk forms the chief article of diet, and to a large extent is taken raw, hence the necessity for a supply that will be beyond chance of suspicion gave rise to the idea of "certification" by a commission of physicians, it being conceded that they are the ones best qualified to recognize sources of danger and to guard against them.

The certified dairies are required to conform to the rules of the commission in regard to the health of cows, and general sanitary conditions and cleanliness of methods. The cows must be free from tuberculosis as shown by the tuberculin test, and must show no signs of any disease, being examined by a competent veterinarian. The general sanitary conditions must be good, the water supply pure and abundant and the drainage adequate. Every effort must be made to prevent contamination of the milk. The cows are brushed carefully before each milking, and their udders are washed and dried. The milkers wash their hands and put on white laundered suits. Everything that comes in contact with the milk has been previously sterilized, and as rapidly as may be it is bottled and cooled.

The output as it reaches the customers is under constant supervision of the commission. Samples are taken without previous warning at irregular intervals and examined for bacterial content and chemical composition by the experts of the commission. The requirements of the commission in this regard are:

(1) The entire absence of pathogenic organisms and the freedom from excessive numbers of all kinds.

(2) A minimum content of nutritive ingredients.

(3) An absence of any preservative or foreign substance of any kind.

It will be seen that certified milk is more than sanitary milk; it is more than inspected milk. It is a product that could never be attained by legislation, that is so far above the requirements of the law that it is not under the law at all. It is a milk that is clinically correct and that can be recommended by a physician to his patients without question as to its purity, its safety, or its wholesomeness.

In the last few months the certified milk industry in California has made rapid strides. Especially has this been true in the region around the bay, the output in San Francisco, Oakland, Alameda, and Berkeley having been doubled within a year.

There are now within the State five certified dairies, furnishing a total daily output of nearly 4,000 quarts. The Arden Dairy of Pasadena is certified by the Medical Milk Commission of Los Angeles County, and sends its output, amounting to about 700 quarts daily, to that city. This is the only certified dairy in southern California, and there is undoubtedly a large field for future development in that section.

San Francisco gets its certified milk from three dairies, the milk from all of them being certified by the Milk Commission of the San Francisco County Medical Society. The Ideal Dairy in Marin County produces about 1,000 quarts a day. The Warren Model Dairy at Palo Alto sends about 400 quarts, and the Timm Certified Dairy at Dixon about 250 quarts, this being half of their output (the rest of the milk being produced by the Timm Dairy going to Alameda County). The Milk Commission of the Alameda County Medical Society certifies to the output of the Walnut Grove Dairy at Santa Clara, as well as to that part of Mr. Timm's milk which comes under their jurisdiction. The total from both sources amounts to about 1,100 quarts daily.

There is little or no competition as yet in the certified milk business. The supply has had a hard time to keep pace with the demand. There has been considerable difficulty encountered in finding new cows for the certified herds, owing to the great prevalence of bovine tuberculosis, and the unwillingness of cattlemen to sell on the tuberculin test.

It speaks well for the intelligence of our milk-consuming public to note that of thirty-three milk commissions in the United States for the production of certified milk, three are in California. This gives us one eleventh, which is surely all of our share.

DEPARTMENT OF PURE FOODS AND DRUGS.

PROF. M. E. JAFFA, DIRECTOR.

NUTRITIVE VALUE OF RAISINS.

Statistics tell us that dried fruits constitute less than seven tenths of one per cent of the total food supply of the American people. It can easily be seen from this that the percentage of raisins consumed must naturally be considerably lower. It would therefore appear that the present agitation with reference to raisins is very timely, and it is to be hoped that the good work will not stop on "Raisin Day," but will continue. There are most excellent reasons why more dried fruits generally, and raisins in particular, should in some form or another be eaten in much larger quantity than at present.

We must remember that there are two chief objects of food, namely, to (1) build tissues, and (2) yield energy.

Can raisins build tissue? And can raisins yield energy? The answer to both these questions is, "Yes." The raisins, however, can not build to *any appreciable extent* either muscular tissue or bony tissue, but the fruit can build fatty tissues.

The chemical analysis of raisins, as determined from a large number of samples show them to have the following composition:

Water, per cent	25.00
Nitrogenous compounds, per cent	4.80
Fat, per cent	.70
Sugar, starch, etc. (mainly sugar), per cent	65.40
Crude fibre, per cent	.80
Mineral matter, per cent	3.30
Total	100.00
Fuel value per pound, calories	1,350

These data show us conclusively that the chief nutritive element in the raisin, and in dried fruits generally, is sugar, one of the most valuable of the carbohydrates, and certainly most easily digested and assimilated of all. When we consider that the consensus of opinion among physiologists and nutrition investigators is that the carbohydrates of our food and not the nitrogenous compound are the source of muscular energy for the body, we can better appreciate the high nutritive value of raisins. The amount of sugar in the average raisin is almost identical with the amount of starch in the average wheat; in other words, the carbohydrate element in the raisin is equal to that of a most staple food product, wheat. It is true, of course, that the nitrogenous ingredient in the raisin is about one third of that in the grains, but at the same time about one half of that which the ordinary white bread will contain. The comparative food values of raisins with some of the more common foods may be indicated by an inspection of the figures showing the fuel value or heat units contained in the respective foods. The fuel value per pound of raisins and prunes is about 1,350 calories, or heat units; the corresponding figure for potatoes is only 385; for ordinary white bread 1,200; for dried beans and peas about 1,600; for meat containing about 10 per cent of fat, 700 calories; for meat containing about 20 per cent of fat 1,200 calories. It is thus seen that when the total food value as expressed in calories is discussed, that raisins compare most favorably with many of our common foods. It must not be forgotten, however, that we could not substitute raisins for meat and expect the body to remain in good condition, because the meat is rich in proteids so necessary for keeping up good bodily health and vigor; but the raisins could be used to form a generous portion of the carbohydrate element of our food, which is also necessary for the maintenance of health and strength, and ability to work.

NOTICES OF JUDGMENTS FOR VIOLATIONS OF THE UNITED STATES PURE FOOD LAW.

The following notices of judgments Nos. 38 to 49, inclusive, have been received at the laboratory since the publication of the last Bulletin. The facts in each case are appended, as it would appear that they are of general interest to the consumer and manufacturer of California. Full copies of these judgments can be obtained upon application to the Director of the State Laboratory, Berkeley, California:

No. 38. *Misbranding of Canned Corn.* (Underweight.)

An examination of a number of cans of corn of a large consignment from the Audubon Canning Company, Audubon, Iowa, to the Fred J. Kiesel Co., of Utah, which were branded "2 lbs. Sweet Corn," were found to contain not over twenty-four ounces. These facts were reported to the United States District Attorney, and a libel for seizure and condemnation was duly filed.

No. 39. *Misbranding of Corn and Beans.* (Underweight.)

An examination of cans labeled "3 lbs. Birthday Brand Extra Quality Hulled Corn," from the Bloomington Canning Co., Bloomington, Illinois, were found to contain but from 38 to 40 ounces each. Cans labeled "2 lbs. Birthday Brand Extra Quality Red Kidney Beans," contained but 25 ounces each. Libel for seizure and condemnation filed.

No. 40. *Misbranding of Canned Corn.* (Presence of Saccharin.)

Corn packed by Smith-Yingling Co., Westminister, Md., labeled "Oriole Brand Sugar Corn, Packed with Heyden Sugar," was found to contain saccharin instead of sugar, and therefore mislabeled. Libel for seizure and condemnation filed.

No. 41. *Adulteration of Water.* (Great Bear Spring.)

Samples of water purchases from the Great Bear Springs Co., Washington, D. C., and labeled "Great Bear Spring Water," were found to contain the colon group of organisms which rendered the water unfit for human consumption. These conclusions were confirmed by inspection of the bottling works and finding insanitary conditions. Libel for seizure and condemnation filed.

No. 42. *Misbranding of Butter.* (Renovated Butter.)

The Elgin Creamery Co., of Washington, D. C., advertised on a blackboard "Elgin Creamery Co., 4 pounds Best Elgin Butter only $1.00 to-day only," the dealer also representing it to be the best creamery butter. It was found to be renovated butter. Information filed in the police court against the proprietor of said company.

No. 43. *Misbranding of Canned Peas.* (As to Weight.)

Peas labeled "2 lb. Cans, Choice Standard Peas. Packed by P. Hohenadel, Jr., and Co., Rochelle, Ill.," were found to contain but 1 lb. 10 oz. gross, and libel for seizure and condemnation was filed.

No. 44. *Misbranding of Meal.* (As to Milling Process.)

Sacks of meal labeled "Old Log Cabin Meal. Fresh Ground Meal. Best Water Ground Style." Investigation had developed that the output of the mill where this meal was produced was not ground by the water process or in burr mills, but by steam roller process. Hence the statement of best water ground style was false, misleading, and deceptive. Libel for seizure and condemnation duly filed.

No. 45. *Adulteration and Misbranding of Whiskey.* (As to Color, Age, and Source.)

Four barrels of a product purporting to be whiskey, each barrel bearing upon the label end the words "J. Jackson Old Rye Whiskey," and on the stamp end the words "Whiskey Compound with Grain Distillates, Chas. H. Ross & Co., Baltimore, Md." The internal revenue gauger's numbers on the barrels were as follows: R8807951, R8807952, R8807953, and R8807954. The contents were found to contain artificial coloring matter introduced for the purpose of concealing inferiority and producing an imitation of old mature whiskey. Libel for seizure and condemnation filed.

No. 46. *Adulteration of Eggs.* (Filthy, Decomposed Animal Substance.)

A consignment of unshelled, frozen eggs were shipped to Detroit, Michigan, from Cincinnati, Ohio. The tub bore no label, but they were invoiced as "eggs." Investigation showed that they were refuse eggs, broken and the contents frozen into a solid mass. Libel for seizure and condemnation duly filed.

No. 47. *Misbranding of Maple Syrup.* (As to Presence of Maple Syrup.)

A sample of syrup labeled "Western Reserve Ohio Blended Maple Syrup. This syrup is made from the sugar maple tree and cane sugar, and guaranteed to be in accordance with the national pure food laws. Western Reserve Syrup Co., Cleveland, O.," disclosed on analysis that it was composed of cane sugar syrup flavored with some constituents of the maple tree. It was not a maple syrup, nor a blended maple syrup, and the representation on label was false and misleading, and information was filed in the district court against H. Y. Scanlon, the manufacturer.

No. 48. *Adulterated and Misbranded Vanilla Extract.* (A Colored Imitation.)

The contents of a bottle labeled "American Flavors, Vanilla," gave an analysis as follows: Coumarin none, Vanillin 0.11 per cent, Methyl alcohol none, Resins none, Caramel present, Alcohol test natural color absent. Vanilla extract is the flavoring extract prepared from vanilla bean, with or without sugar or glycerin, and contains in one hundred (100) cubic centimeters the soluble matters from not less than ten (10) grams of the vanilla bean. (From Standard of Purity for Food Products.) The article is both adulterated and misbranded. Adulterated because there is a substitute for the vanilla bean, and misbranded because the statement vanilla is misleading. Information was filed against the producer.

No. 49. *Misbranding of Coffee.* (As to Geographical Source.)

Coffee labeled "Dutch Java Blend, Fancy Roasted Coffee," was analyzed, and found to be a mixture of washed Santos Santos and Bourbon coffee, the latter being a coffee grown in Brazil from Mocha coffee seed. The information on the label that it was Dutch Java coffee was misleading and false and in violation of the law, and liable for seizure and condemnation was filed.

United States Food Inspection Decision No. 106, just received, is reprinted herewith:

FOOD INSPECTION DECISION 106.

AMENDMENT TO FOOD INSPECTION DECISION 77.

(A definition of the terms "Batch" and "Mixtures" as used therein.)

The definition of the term "batch" as given on page 4, lines 12 to 14 of Food Inspection Decision 77, is hereby extended to include also the contents of any one package, cask, or other container holding 500 pounds or less of dye, even though the contents of such package, cask, or container has not undergone the same treatment at the same time and the same place as a unit.

The word "mixtures" as used on page 3, line 15 from the bottom, and following, of Food Inspection Decision 77 is hereby declared to mean not only such mixtures as consist wholly of certified coal tar dyes but also those which contain one or more certified coal tar dyes (and no other coal tar dye or dyes) in combination with other components, constituents, or ingredients not coal tar dyes, which other components, constituents, or ingredients are in and of themselves or in the combination used harmless and not detrimental to health or are not prohibited for use in food products; the exact formula of such mixtures, including all of the components, constituents, or ingredients, or other parts of the mixture, together with a statement of the total weight of mixture so made, must be deposited with the Secretary of Agriculture and a one (1) pound sample thereof must be sent to the Secretary of Agriculture, but such formula need not appear on the label; in lieu of which may appear the legend "Made from certified lots Number .... and Number ...., etc.," and no mention need be made of any constituent or constituents other than of the certified coal tar dyes employed.